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 XI. *Calendarium Plantarum marinarum.* By Dawson Turner, Esq. F.L.S.

Read March 5, 1799.

IN submitting to the Linnean Society a list of the periods at which some of the British marine *Algæ* produce their fructification, it may not perhaps be wholly unnecessary to preface it by observing, that the habitation of many of these plants at the bottom of the ocean, remote from any shore, where we are of necessity precluded from all possibility of tracing them through their several stages of growth, is certainly one of the greatest obstacles to our procuring a clear and comprehensive knowledge of them. How far the difficulties arising from this circumstance can ever be entirely removed, time and experience must alone determine; but we have reason to entertain very sanguine hopes, as the beauty of this tribe has of late years attracted many admirers, to whose zeal and abilities marine botany is much indebted; and this Society may boast of having given to the world by far the most valuable account ever written of these plants. But much still remains to be done; and it can be done only by naturalists resident upon the different parts of the coast accustomed themselves to examine attentively the various species in their several gradations, and laying before the world the result of their inquiries. To stimulate them to this, was one of my principal objects in bringing forward the present remarks; for, as no British author has given us any thing like a complete list of the times of fructification of the submersed *Algæ*, those naturalists who are in  
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the habit of occasionally visiting the sea, and collecting its productions, are led to expect that whatever they find they will find in perfection; which has not unfrequently been the cause of error as well to themselves as to others. For, to mention one instance among many, the *Fucus subfuscus*, which is one of the most common species upon the Norfolk shore, and fructifies only in the earliest months of spring, is generally gathered in September, and often throughout the whole winter, with its stem and branches swollen in various parts; which swellings many very learned botanists have mistaken for fruit, and conceived themselves discoverers of either, what they called, diamorphous fructification, or new species; although, from having again and again, in company with my worthy friend Mr. Wigg, A. L. S. examined these tumours, I can safely pronounce them nothing more than the substance of the frond swollen, and caused, as I imagine, by some marine insect, the same being, though not so frequently, observable upon other *Fuci*. It were easy to enlarge upon this subject, and produce many similar instances of error; but as this one is sufficient to establish my point, I shall refrain from saying more at present, as I may probably at some future time lay before this Society a few remarks more particularly relating to the mode of fructification that obtains in these vegetables.

Having, on the foregoing accounts, been long conscious of the greater facility which would attend our investigation of the marine *Algæ*, could we fix with tolerable precision the times when we might expect to gather them at maturity, I have constantly habituated myself to commit to writing at what months I have found the different species in fruit; and though my list must necessarily be imperfect, as well because I am obliged to trust to the winds and waves, the nature of our shore not allowing us to visit them in their places of growth, as because we find upon our coast only a limited num-

ber, I nevertheless flatter myself with the hope that it may have its use, by inducing the botanists of distant counties to bestow some attention upon this neglected branch of a favourite subject. For its accuracy, as far as it extends, I can with safety vouch, as I have admitted nothing that has not been the result of my own actual observation, either upon *Fuci* found along the Norfolk shore, or upon a few which I have at various times received through the medium of sailors from the southern counties.

It now only remains for me to add, that a principal cause of the imperfection of the following Catalogue lies in our being wholly unacquainted with the fructification of many species, as *Fucus saccharinus*, *Filum*\*, *viridis*, &c. together with almost all the membranaceous *Ulvæ*, and a great proportion of the *Confervæ*; which genus I shall hardly mention, as our knowledge of the species is at present so imperfect, that it requires more than ordinary fortune to find two botanists who agree in assigning to the same plant the same name.

YARMOUTH,  
February 10, 1799.

\* This *Fucus*, figured in the *Flora Danica*, tab. 886, was, I believe, first discovered to be a native of Great Britain by Sir Thomas Frankland, Bart. F. L. S. and is occasionally gathered upon the Yarmouth beach. It deserves to be remarked, that when fresh it is of a beautiful orange colour, which it loses after having been a short time exposed to the air, and becomes of a pale verdegris green; but if kept in fresh water it changes this also to a dark brown.

JANUARY.

Fucus sanguineus.  
sinuosus.  
loreus.  
ciliatus.  
membranifolius.  
radiatus.  
lumbricalis.  
plicatus.  
filiquofus.  
crispus.  
bifidus.  
nodofus.  
ferratus.  
patens.

FEBRUARY.

Fucus nodofus.  
filiquofus.  
ferratus.  
subfuscus.  
plicatus.  
sinuosus.  
crispus.  
laciniatus.

MARCH.

Fucus nodofus.  
ferratus.  
plicatus.

VOL. V.

Fucus subfuscus.  
filiquofus.  
sinuosus.  
crispus.  
laciniatus.

APRIL.

Fucus nodofus.  
ferratus.  
plicatus.  
diffusus.  
subfuscus.  
sinuosus.  
crispus.  
laciniatus.

Conferva coccinea. *With.*  
polymorpha.

MAY.

Fucus subfuscus.  
sinuosus.  
laciniatus.  
crispus.  
diffusus.

Conferva coccinea.  
polymorpha.

JUNE.

Fucus coccineus.  
hypoglossum.

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Fucus

Fucus kaliformis.  
 dasyphyllus.  
 asparagoides.  
 byssoïdes.  
 diffusus.

Conferva rubra.  
 diaphana.

Ulva atomaria.  
 purpurascens.  
 ligulata.

## JULY.

Fucus kaliformis.  
 hypoglossum.  
 byssoïdes.  
 coccineus.  
 asparagoides.  
 pedunculatus.  
 dasyphyllus.  
 pinnatifidus.

Conferva rubra.  
 diaphana.  
 ciliata.

Ulva ligulata.  
 atomaria.  
 dichotoma.  
 rubens.  
 purpurascens.  
 fistulosa.

## AUGUST.

Fucus kaliformis.  
 pedunculatus.  
 purpurascens.  
 byssoïdes.  
 asparagoides.  
 coccineus.  
 dasyphyllus.  
 bifidus.  
 hypoglossum.

Conferva rubra.  
 diaphana.  
 ciliata.

Ulva ligulata.  
 atomaria.  
 dichotoma.  
 fistulosa.  
 rubens.

## SEPTEMBER.

Fucus crispus.  
 dasyphyllus.  
 asparagoides.  
 confervoides.  
 bifidus.  
 coccineus.  
 purpurascens.  
 laceratus.

Conferva rubra.

Ulva rubens.  
dichotoma.  
atomaria.  
fistulosa.

OCTOBER.

Fucus bifidus.  
radiatus.  
fastigiatus.  
coccineus.  
purpurascens.  
crispus.  
rubens.  
laceratus.  
membranifolius.  
sanguineus.  
ciliatus.  
plicatus.  
nodosus.  
confervoides.

Conferva rubra.

Ulva dichotoma.  
atomaria.

NOVEMBER.

Fucus filiquosus.  
crispus.  
bifidus.  
purpurascens.

Fucus lumbricalis.  
radiatus.  
plicatus.  
nodosus.  
ciliatus.  
pinastroides.  
confervoides.  
membranifolius.

Ulva dichotoma.  
atomaria.

DECEMBER.

Fucus loreus.  
nodosus.  
lumbricalis.  
crispus.  
filiquosus.  
fibrosus.  
radiatus.  
sanguineus.  
purpurascens.  
membranifolius.  
ferratus.  
sinuosus.  
ciliatus.

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Fucus vesiculosus and Ulva diaphana are found in fruit during the whole year.